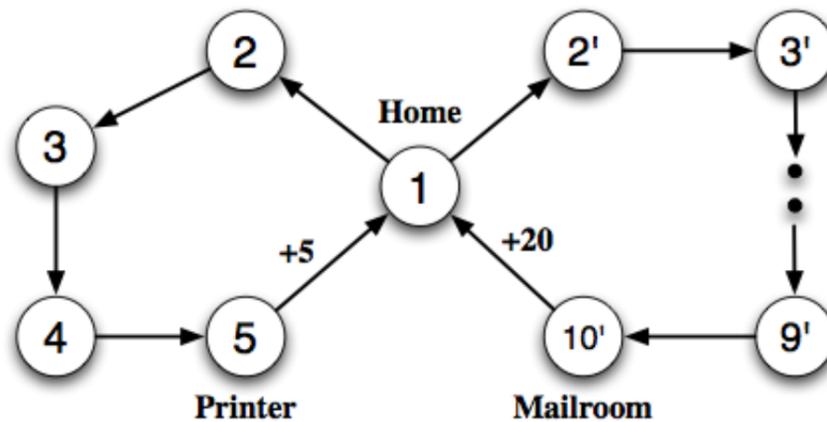


MODEL-BASED UNDISCOUNTED MDPs

I TP Part A Average and Discounted optimality

Consider the following Deterministic MDP:



1. What are the stationary deterministic policies for this MDP?
2. For each of them, what is the γ -discounted value at state 1 ?
3. For which values of $\gamma \in [0, 1)$ is it optimal to move to the mail room?
4. For which values of $\gamma \in [0, 1)$ is it optimal to move to the printer?
5. A strategy is Blackwell optimal if there exists γ_0 such that π is optimal for all $\gamma \in [\gamma_0, 1)$. does this problem have any Blackwell optimal strategy?
6. For each policy, what is the average value in state 1 ? Which policy is optimal for this criterion ?
7. For what range of values of γ does the γ -discounted optimal agent selects a policy optimal for the average value?